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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,429	02/20/2004	Ronald D. Knudsen	210453US01 (4081-04401)	6369

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EXAMINER
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PASTERCZYK, JAMES W

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 08/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

17

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/783,429	KNUDSEN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	J. Pasterczyk	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 and 37-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 and 37-53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. Applicant's election without traverse of claims 1-31 and 37-53 in the reply filed on 6/22/05 is acknowledged. The nonelected inventions of claims 32-36 have been cancelled.

2. The specification is objected to because the ancestry in the first paragraph must be updated.

3. The examiner further notes that numerous items of prior art are cited in inter alia paragraphs 56, 58, 64, 65 and 68 of the present specification. Applicants are reminded of their duty to disclose under 37 CFR 1.56.

4. Claims 26-30 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the metal M being chromium, does not reasonably provide enablement for the metal M being anything else, let alone any metal from the broad group of any group 3-10 metal. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims. Considering the changes in properties of transition metals as one goes across a period, i.e. electron poor to electron rich, Lewis acidic to less so, shrinkage in ionic radius, it should be quite obvious that whatever synthetic processes work for an early transition group metal would not necessarily work for a late transition group metal, nor would an early one afford the same catalytic activity as a late one under the same conditions. Hence these overbroad claims are considered to be not enabled since they would require excessive experimentation on the part of the practitioner to succeed in making a working catalyst.

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5. Claims 1-22, 25-31 and 37-53 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, l. 3, insert a comma after “solvent” to clearly demark where the claimed method begins. Since the method does not recite a metal alkyl, it is not clear where the metal alkyl of l. 2 comes from; it is also not clear whether the halide-containing compound of l. 3 is the same as the metal halide-containing compound of the last line. Also, the non-metal halide-containing compound appears to lack antecedent basis. In general it is unclear how the reagents of the preamble correlate with those in the remainder of the claim. The remainder of the claims dependent from this claim recite various other variations of these compounds, so it should be made clear and consistent where these compounds all come from in their superior claims.

Claim 3 recites a use and is so ungrammatical as to be unintelligible. “Corrosive” is also a relative term since it is not recited toward what the “corrosive” compounds (not specifically identified) are corrosive; what do these compounds corrode?

In claim 4, l. 1, insert --of-- after “abating”; in l. 3 “non-halide metal alkyl” lacks antecedent basis, as does “the compositions comprising water, acidic protons, or both” since the presence of these compounds does not appear to be clearly affirmatively recited.

In claim 8, it is not clear to what the “contacted compositions” refers.

In claim 9, last line, it is not clear which specific “remaining compositions” are being referred to since there are so many at this point in the claimed process; in l. 4 change “contacting the mixture” to --contacting said mixture--.

In claim 17 insert --of-- before “all or a portion” in l. 1.

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In claim 21, last line, insert --the-- or --said-- after “comprising”.

In claim 25, with the ellipses in the formula it is not clear what the actual structure is or what is intended to be conveyed by these ellipses. In the last line no conclusion is given for the condition “and when n is not less than 2”; also change “may be” to --is--.

In claim 26, it is not clear how each of the ligands whose structures are given can be tridentate and thus give tripod structures unless all the L groups are from groups 15 or 16 and thus have lone pairs of electrons available for forming dative bonds to the metal.

In claims 28 and 29, l. 4, make “P” lower case.

In claim 31 “including” leaves it unclear whether the following recitation is of an open, closed or semiclosed Markush group. Conventional language is urged.

In claim 39, whether or not a distillation is azeotropic depends on the solvents in the mixture and whether they form an azeotrope; the distillation process itself is not azeotropic and the term “azeotropic distillation” is a non sequitur.

In claim 40, it is not clear if “the solvent” of the first line is that of claim 1 or claim 39, and begin the last line with --a--.

In claim 43, “metal alkyl halide” lacks antecedent basis, and in the last line insert a comma after “thereof”. It seems as if this claim should depend from claim 2 and not claim 1.

In claim 44, “non-metal halide containing compound” lacks antecedent basis, and in the last line change “thereof is” to --thereof, are--.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 26-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Mimura et al., USP 6,337,297 (hereafter referred to as Mimura).

Mimura discloses the invention as claimed (abstract; col. 2, l. 27-51; col. 2, l. 66 to col. 7, l. 22; col. 10, l. 20-45; col. 14, l. 7-49; col. 15, l. 60-65).

The Yoshida et al. USP reference is considered to be cumulative with Mimura.

8. Claims 1-24, 31 and 37-53 are rejected under 35 U.S.C. 102(b) as being anticipated by Reagan et al., USP 5,376,612 (hereafter referred to as Reagan).

Reagan discloses the invention as claimed (abstract; col. 6, l. 58-64; col. 8, l. 37-68; col. 9, l. 57-68; col. 10, l. 18-22; col. 11, l. 11-19, l. 45-66; col. 12, l. 5, l. 50 to col. 13, l. 32; col. 14, l. 37-68; col. 15, l. 55-68; col. 17, l. 6-10).

The Knudsen, Maas, and both Freeman references are considered to be cumulative with the applied Reagan reference. Most of the other references are also cumulative.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reagan as cited above.

The disclosure of Reagan has been discussed above.

Reagan clearly prefers the use of chromium as the metal in the pyrrole derivative, though it also teaches that other elements may be used therein (col. 2, l. 15-18).

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It would have been obvious to one of ordinary skill in the art to apply that skill to the disclosure of Reagan with a reasonable expectation of obtaining a highly-useful method of making an olefin oligomerization catalyst with the expected benefit of not needing to support the catalyst.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Pasterczyk whose telephone number is 571-272-1375. The examiner can normally be reached on M-F from 9 to 5:P30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

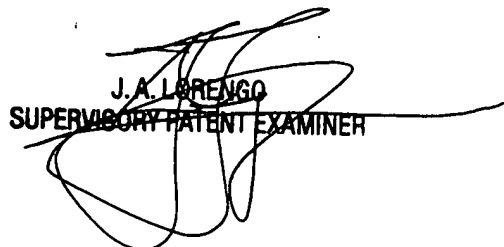
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J. Pasterczyk

AU 1755

8/23/05



J. A. LORENGO  
SUPERVISORY PATENT EXAMINER